

### Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

### Listing of Claims:

1. (Currently Amended) A method for operating an embedded system covering a plurality of technical applications, the operative functions of which are performed with a respective plurality of application-specific Electronic Control Units ~~[[ (ECU) ]]~~ (ECUs), wherein (10, 12, 14, 16, 18), each ECU having separate need of resources regarding at least processing and storage ~~subsystems, subsystem, the~~ method characterized by the steps of:

a) operating a preselected one of said ECUs as a “donor” ECU ~~[[ (18) ]]~~ being provided with predefined storage subsystem resources~~[[,]]~~; and

b) in case of a breakdown of either a storage subsystem ~~[[and/]]~~ or processing subsystem of ~~[[an]]~~ a “non-donor” ECU ~~[[ (12) ]]~~ donating respective predefined resources corresponding to either a broken down storage subsystem or a broken down processing subsystem from said “donor” ECU to said breakdown “non-donor” ECU ~~[[ (12) ]]~~, wherein either an unbroken down storage subsystem or an unbroken down processing subsystem remains, and wherein the “non-donor” ECU retains the corresponding unbroken down processing subsystem or the corresponding unbroken down storage subsystem.

2. (Currently Amended) The method according to claim 1 further comprising the steps of:

a) operating a preselected one of said ECUs as a “donor” ECU ~~[[ (18) ]]~~ with a storage subsystem ~~[[ (32) ]]~~ being increased for some predetermined degree,

b) reserving for at least one non-donor ECU ~~[[ (12) ]]~~ of said ECUs a respective predetermined storage area ~~[[ (50) ]]~~ in the storage subsystem ~~[[ (32) ]]~~ primarily associated with said preselected donor ECU ~~[[ (18) ]]~~ of said plurality of ECUs~~[[,]]~~;

c) providing to each non-donor ECU ~~[[ (12) ]]~~ an access to a respective one of said reserved storage areas ~~[[ (50), ]]~~;

d) monitoring the operation of said ECUs, in case of breakdown of a non-donor ECU ~~[[ (12) ]]~~ storage subsystem ~~[[ (24) ]]~~ breakdown~~[[,]]~~;

e) transforming addresses associated with said reserved storage area ~~[[ (50) ]]~~ to new addresses adapted for being accessible by said ~~breakdown non-donor~~ ECU ~~[[ (12) ]]~~; and

f) assigning access to said non-donor ECU ~~[[ (12) ]]~~ to a respective one of said reserved storage areas (50) by using said transformed new address.

3. (Currently Amended) The method according to claim 1, in which a split-cycle mode operation is performed in which in one memory operation cycle of the donor-ECU ~~[[18]]~~ the donor ECU and one non-donor ECU ~~[[12]]~~ access the same storage subsystem ~~[[32]]~~.

4. (Currently Amended) The method according to claim 1, further in case of breakdown of a non-donor ECU processor ~~[[20]]~~ breakdown comprising the step of:

operating said donor ECU ~~[[18]]~~ in a shared-processor mode, in which a predetermined controllable extent of donor-ECU processor ~~[[28]]~~ resources is used to run applications, which have run at ~~the breakdown~~ said non-donor ECU ~~[[12]]~~ before its breakdown.

5. (Currently Amended) The method according to claim 1, in which the donor ECU ~~[[18]]~~ is a human interface Multimedia unit, and a non-donor ECU ~~[[12]]~~ is a real-time ECU having a considerable lower storage need than the donor ECU.

6. (Original) The method according to claim 1, in which a breakdown is defined by errors limitedly resulting in a non-successful operation of a subtotal of applications running in an ECU.

7. (Currently Amended) The method according to ~~claim 1~~ claim 2, comprising the step of reserving said storage area (SO) by hardware means, by processor-specific memory management means, operation system specific means, or middleware-specific means.

8. (Currently Amended) The method according to the preceding claim 3, in which write and read accesses are performed permanently to both, the respective own donor-ECU storage subsystem ~~[[32]]~~ and to a respective reserved area ~~[[50]]~~ in the donor-ECU subsystem, and said split-cycle operation mode is performed permanently.

9. (Currently Amended) The method according to claim 8, further comprising the ~~[[step]]~~ steps of:

~~[[a]]~~ in a split cycle comparing read data of a non-donor ECU ~~[[12]]~~ and respective redundant read data from said respective reserved storage area ~~[[50]]~~ in said donor-ECU ~~[[18]]~~; and  
if read data is not identical, initiating predetermined error management.

10. (Currently Amended) An embedded system having means for performing the steps of a method according to any of claims 1 to 9, comprising a hardware logic circuit ~~[[40]]~~ connectable between a

donor ECU [(18)] and a non-donor ECU [(12)], said hardware logic circuit [(40)] comprising logic means for implementing the donating functions.

11. (Currently Amended) ~~[[The]]~~ An embedded system according to claim 10 comprising a hardware logic circuit (40) connectable between a donor ECU and a non-donor ECU, said hardware logic circuit comprising logic means for implementing the donating functions, in which said hardware logic circuit [(40)] comprises:

a) an autonomic system control means [(60)] implementing system faults handling means operatively connected to

b) a DSSM signal control circuit [(64)] connected for implementing the multiplexing of storage accesses and the address transforming operations, and to

c) a split-cycle timing generator [(70)] connected for implementing a shared access to said donor ECU storage subsystem [(32)];

said system having means for performing the steps of a method covering a plurality of technical applications, the operative functions of which are performed with a respective plurality of application-specific Electronic Control Units (ECU), each ECU having separate need of resources regarding at least processing and storage subsystem, characterized by the steps of:

a) operating a preselected one of said ECUs as a “donor” ECU being provided with predefined storage subsystem resources; and

b) in case of a breakdown of either a storage subsystem or processing subsystem of a “non-donor” ECU donating respective predefined resources corresponding to either a broken down storage subsystem or a broken down processing subsystem from said “donor” ECU to said “non-donor” ECU, wherein either an unbroken down storage subsystem or an unbroken down processing subsystem remains, and wherein the “non-donor” ECU retains the corresponding unbroken down processing subsystem or the corresponding unbroken down storage subsystem;

in which a split-cycle mode operation is performed in which in one memory operation cycle of the donor-ECU the donor ECU and one non-donor ECU access the same storage subsystem; and

in which write and read accesses are performed permanently to both, the respective own donor-ECU storage subsystem and to a respective reserved area in the donor-ECU subsystem, and said split-cycle operation mode is performed permanently.

12. (Currently Amended) The embedded system according to claim 11 in which a multiplexer means is provided within said DSSM signal control circuit [(64)] for assigning access to said non-donor ECU to a respective one of said reserved storage areas, which is implemented as a FET switch array.

13. (Currently Amended) The embedded system according to claim 12 in which said autonomic system control means [(60)] is implemented in a programmable ASIC.